

Translation

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><b>2532_S PCT</b>                   | FOR FURTHER ACTION  | See Form PCT/IPEA/416                               |
| International application No.<br><b>PCT/EP2004/004810</b>                    | International filing date (day/month/year)<br><b>06.05.2004</b> | Priority date (day/month/year)<br><b>08.05.2003</b> |
| International Patent Classification (IPC) or national classification and IPC |   |   |
| Applicant<br><b>KNORR-BREMSE SYSTEME FÜR NUTZFAHRZEUGE GMBH</b>              |   |   |

|  |                                     |   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
|--|-------------------------------------|---|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| <ol style="list-style-type: none"> <li>This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.</li> <li>This report is also accompanied by ANNEXES, comprising:           <ol style="list-style-type: none"> <li><input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>4</b> sheets, as follows:               <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li><input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol> |                                     |   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <ol style="list-style-type: none"> <li>This report contains indications relating to the following items:           <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> </li> </ol>   | <input checked="" type="checkbox"/> | Box No. I   | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/>  | Box No. I                           | Basis of the report   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. II                          | Priority  |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. III                         | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. IV                          | Lack of unity of invention  |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input checked="" type="checkbox"/>  | Box No. V                           | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. VI                          | Certain documents cited   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. VII                         | Certain defects in the international application  |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>   | Box No. VIII                        | Certain observations on the international application   |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |

|   |                                   |
|---|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/004810

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- international search (Rule 12.3 and 23.1(b))
- publication of the international application (Rule 12.4)
- international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:

pages 1-16 as originally filed/furnished  
 pages\* 1a, 1b received by this Authority on 11.03.2005 with the letter of 09.03.2005

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

nos. \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
11.03.2005 with the letter of 09.03.2005

nos.\* 1-5 received by this Authority on 11.03.2005 with the letter of 09.03.2005

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

sheets 1/5-5/5 as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

|                               |                   |
|-------------------------------|-------------------|
| International application No. | PCT/EP2004/004810 |
|-------------------------------|-------------------|

|                               |  |            |
|-------------------------------|--|------------|
| Box No. V                     | <b>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b> |            |
| <b>1. Statement</b>           |  |            |
| Novelty (N)                   | Claims   | <u>1-5</u> |
|                               |  | YES        |
|                               | Claims   | <u> </u>   |
|                               |  | NO         |
| Inventive step (IS)           | Claims   | <u>1-5</u> |
|                               |  | YES        |
|                               | Claims   | <u> </u>   |
|                               |  | NO         |
| Industrial applicability (IA) | Claims   | <u>1-5</u> |
|                               |  | YES        |
|                               | Claims   | <u> </u>   |
|                               |  | NO         |

**2. Citations and explanations (Rule 70.7)**

This report makes reference to the following document:

D1: DE 199 15 253 A (BOSCH GMBH ROBERT)

5 October 2000 (2000-10-05)

D1, which is considered to represent the prior art closest to the subject matter of claim 1, discloses (the references in parentheses are to this document):

A braking system for vehicles (see column 3, lines 5-9, and figure 2) with at least one first braking circuit (microcomputer 1 inside unit 10, together with the wheel brakes controlled by this microcomputer, see column 3, lines 9-16, see also column 4, lines 7-14) and at least one second braking circuit (microcomputer 2 inside unit 10, together with the wheel brakes controlled by this microcomputer), wherein each of the two braking circuits has an electrical open loop, each of which has a control electronics system (10), a dedicated power supply device (E1 or E2, see column 3, line 11 and column 3, line 64 to column 4, line 6) and brake actuating devices (50, 52, 54, 56) controllable by the control electronics systems, wherein at least one brake actuating device is

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

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**Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

controllable by more than one control electronics system  
(in this case, for example, by control electronics systems 58 or 10).

The subject matter of claim 1 differs from the closest prior art (D1) in that the braking circuits are electrically controllable by a service braking system valve, wherein the service braking system valve has two electrical brake sensor devices, each of which is connected to the control electronics systems in a mutually galvanically isolated manner.

The subject matter of claim 6 is therefore novel (PCT Article 33(2)).

The problem addressed by the present invention may therefore be considered that of providing an improved generic braking circuit which is electrically controllable by a service braking system valve.

The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

None of the prior art documents discloses a solution wherein the service braking system valve has two electrical brake sensor devices, each of which is connected to the control electronics systems in a mutually galvanically isolated manner.

Claims 2-5 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and

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International application No.  
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**Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**inventive step.**